The UK National Facility for Measuring the Thermal Properties of Thin Films and Coatings

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In April 1992 the UK Department of Trade and Industry awarded AEA Technology, Risley, a three year contract to establish the National Facility for measuring the thermal properties of thin films and coatings. This contract was completed in September 1995 and since then AEA have been providing a commercial measuring service for thin films and coatings. The main property it is asked to measure is thermal diffusivity. At the National Facility this can be measured using a fast laser flash apparatus or by using the front surface flash technique (pulsed photo-thermal radiometry) on thin films and coatings down to 5 micron thick (the minimum thickness depends on the material). Examples are presented from the first year of operation, on hard wear resistant coatings, thermal barrier coatings and paints.